

## 12. LYMPHOCYTE BLAST TRANSFORMATION RESPONSE IN LIVER DISEASES

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A total of 49 patients of various liver disorders and 25 apparently healthy controls were studied to evaluate the cell mediated immune response, *in vitro*, using lymphocyte transformation to blast cells, with phytohaemagglutinin (P. H. A.) and in patients only with autologous liver antigen. The blast transformation was quantitated on the basis of tritiated thymidine uptake and was expressed as the difference of counts per minute (CPM) in stimulated and unstimulated cultures ( $\lambda$ ). The lymphocyte blast transformation response to PHA stimulation was significantly reduced as compared to controls in cases of chronic active hepatitis ( $p < 0.001$ ), post necrotic cirrhosis ( $p < 0.001$ ) and hepatocellular carcinoma ( $p < 0.01$ ). In response to autologous liver antigen stimulation, the patients of chronic active hepatitis have significantly higher blast transformation index ( $\lambda$ ) as compared to those of portal cirrhosis ( $p$

$< 0.001$ ), hepatocellular carcinoma ( $p < 0.001$ ) and post necrotic cirrhosis ( $p < 0.02$ ). Similarly, the patients of post-necrotic cirrhosis had significantly higher blastogenic response to autologous liver antigen, as compared to cases of portal cirrhosis ( $p < 0.05$ ). Lymphocyte transformation had no correlation with serum bilirubin where as serum transaminase levels demonstrated an inverse relationship to blastogenic response after PHA stimulation ( $r = 4.332$  and  $p < 0.001$ ).

HBs antibody was not detected in any patient or control. HBs antigen was found in 5 (62.5%) cases of chronic active hepatitis, 4 (36.4%) of post-necrotic cirrhosis, 2 (40%) of hepatocellular carcinoma and 1 (33.3%) case each of acute viral hepatitis and of secondaries in liver. It was also found in 1 (7.1%) case of portal cirrhosis and 1 (4%) healthy control.

## 13. ASSESSMENT OF NUTRITIONAL STATUS AND IMMUNE RESPONSE IN PATIENTS OF AMOEBIC ABSCESS OF THE LIVER

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Amoebiasis an age old problem roughly affects 10% of the world's population. Excluding the colon, liver is undoubtedly the organ most frequently invaded by *Entamoeba Histolytica*. It is always discussed as sequelae or complication of amoebic dysentery. It is not known why only a few develop liver abscess despite the fact that about 10% population has *Entamoeba*

*histolytica* in the colon. Malnutrition has been suggested as an important factor in the pathogenesis of invasive amoebiasis (Elsdon—Dew, 1946, 1949). The possibility of malnutrition altering the host immune response has also been emphasised. The study was planned with the following objectives : (a) to study nutritional status of patients with amoebic liver abscess;

(b) to study humoral and cell mediated immune response in patients with amoebic liver abscess.

10 patients of amoebic liver abscess and 10 controls were studied for their nutritional status, humoral antibody response and cell-mediated immunity. Amoebic abscess diagnosis was established on following criteria : (i) aspiration of 'anchovy sauce pus'. (ii) positive serology by IHA and CEP.

Serum immunoglobulins were measured by Mancini's radial immuno-diffusion technique and cell-mediated immunity by leucocyte migration inhibition test. Serum protein was assessed by Biuret's method; cholesterol and triglycerides by ferric chloride and Zilversmit's method, respectively; lipoprotein by Dual precipitation method; vitamin A and  $\beta$ -carotene by Neel's micro-method. The dietary history was taken by 24-hour recall method.

Dietary intake, suggested low intake of

calories, protein fat, vitamin A and  $\beta$  carotene in the patients as compared to the controls.

The serum biochemistry suggested low levels of protein, cholesterol. VLDL, LDL, vitamin A and  $\beta$ -carotene in the patients compared to the controls.

Serum immunoglobulins of the patients showed an increase in IgA and IgG fraction. LMI indicated greater percentage of inhibition in 8 out of 10 patients. Average migration index of the patients was 0.66 as compared to 1.03 of the controls.

### CONCLUSION :

Low dietary intakes as well as low level of nutrients in serum suggest a possible etiological association of malnutrition and amoebic liver abscess. Good humoral antibody response has been observed in the patients, but, there is some evidence to suggest inhibited CMI response.

## 14. SERIAL LIVER FUNCTIONS IN AMOEBIC LIVER ABSCESS

(A Prospective study of 21 cases)

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From our study we conclude—

- (1) The liver function done on admission were abnormal in all patients suggesting hepatocellular dysfunction.
- (2) Though the response to anti-amoebic

treatment in the form of symptomatic relief was evident soon after starting therapy, the functional recovery is slow taking more than three weeks.

- (3) The recovery of the various liver functions do not parallel each other.